

**WE CLAIM:**

1. A sterile dialysis concentrate composition for use in a dialysis solution comprising sodium chloride (NaCl)  $92.30 \pm 9.2$  g/l, and magnesium chloride (MgCl<sub>2</sub>)  $2.05 \pm 0.2$  g/l.
- 5 2. A kit for preparing a dialysis solution comprising the sterile dialysis concentrate composition of claim 1 and optionally instructions for its use.
3. The kit of claim 2 further comprising sterile water sufficient to dilute the  
10 concentrate to a solution comprising Na  $117 \pm 11$  mmol/l, Mg  $0.75 \pm 0.07$  mmol/l, and Cl  $118.5 \pm 11$  mmol/l.
4. A method of preparing a sterile dialysis solution comprising diluting a sterile, dialysis concentrate composition of claim 1 in a sufficient amount of  
15 sterile water to prepare a dialysis solution comprising Na  $117 \pm 11$  mmol/l, Mg  $0.75 \pm 0.07$  mmol/l, and Cl  $118.5 \pm 11$  mmol/l.
5. A method for providing continuous renal replacement therapy to a patient in need thereof comprising administering a sterile dialysis solution  
20 prepared according to the method of claim 4 to a patient in need thereof.
6. A method for treating acute renal failure in a critically ill patient without introducing calcium into the blood removed from the patient during dialysis comprising administering a sterile dialysis solution prepared according to the  
25 method of claim 4 to a patient in need thereof.
7. A method of preparing a sterile infusate comprising diluting a sterile, concentrate composition of claim 1 in a sufficient amount of water to prepare an infusate comprising Na  $117 \pm 11$  mmol/l, Mg  $0.75 \pm 0.07$  mmol/l, and Cl  
30  $118.5 \pm 11$  mmol/l.

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8. A method for providing hemofiltration to a patient comprising administering a sterile infusate prepared according to the method of claim 7 to a patient in need thereof.

9. A use of sterile calcium-free bicarbonate-free concentrate according to claim 1 for preparing an infusate for hemofiltration.

10. A use of a sterile, calcium-free bicarbonate-free concentrate according to claim 1 for preparing a dialysis solution for use in metabolic acidosis.

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11. A sterile dialysis concentrate composition for use in a dialysis solution comprising sodium chloride (NaCl)  $211.96 \pm 21$  g/l, and magnesium chloride ( $\text{MgCl}_2$ )  $4.72 \pm 0.4$  g/l.

12. A kit for preparing a dialysis solution comprising the sterile dialysis concentrate composition of claim 11 and optionally instructions for its use.

13. The kit of claim 12 further comprising sterile water sufficient to dilute the concentrate to a solution comprising Na  $117 \pm 11$  mmol/l, Mg  $0.75 \pm 0.07$  mmol/l, and Cl  $118.5 \pm 11$  mmol/l.

14. A method of preparing a sterile dialysis solution comprising diluting a sterile, dialysis concentrate composition of claim 11, in a sufficient amount of water to prepare a dialysis solution comprising Na  $117 \pm 11$  mmol/l, Mg  $0.75 \pm 0.07$  mmol/l, and Cl  $118.5 \pm 11$  mmol/l.

15. A method for providing continuous renal replacement therapy to a patient in need thereof comprising administering a sterile dialysis solution prepared according to the method of claim 14 to a patient in need thereof.

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16. A method for treating acute renal failure in a critically ill patient without introducing calcium into the blood removed from the patient during dialysis

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comprising administering a sterile dialysis solution prepared according to the method of claim 14 to a patient in need thereof.

17. A method of preparing a sterile infusate comprising diluting a dialysis concentrate composition of claim 11 in a sufficient amount of water to prepare an infusate comprising Na  $117 \pm 11$  mmol/l, Mg  $0.75 \pm 0.07$  mmol/l, and Cl  $118.5 \pm 11$  mmol/l.

18. A method for providing hemofiltration to a patient comprising administering a sterile infusate prepared according to the method of claim 17 to a patient in need thereof.

19. A use of sterile calcium-free bicarbonate-free concentrate according to claim 11 for preparing an infusate for hemofiltration.

20. A use of a sterile, calcium-free bicarbonate-free concentrate according to claim 11 for preparing a dialysis solution for use in metabolic acidosis.

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